

# PATENT ABSTRACTS OF JAPAN

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## (54) NEW PARTICLE, ITS PRODUCTION AND USE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain particles having excellent biodegradability, capable of having multifunctions and useful as a carrier for medicines by including a block copolymer comprising a specific hydrophobic segment and a specific hydrophilic segment as a base material.

**SOLUTION:** The particles contains a block copolymer having a biodegradable polymer as a hydrophobic segment and a polyamino acid as a hydrophilic segment as a base material. The block copolymer is preferably a polymer of the formula: X-B-Y [X is H, R-CO [R is a (substituted) hydrocarbon or the like], A (A is a polyamino acid residue) or the like; Y is OH, OR2 (R2 is the same as R1), A or the like; B is a group obtained by removing H from the terminal hydroxyl group of the biodegradable polymer and OH from the terminal carboxyl group], and the particles are preferably nano-sized particles, especially preferably polymer micelles having an average particle diameter of about 10-200 nm.